

MARINE DIVISION

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Certificate number: 19459/A0 BV

File number : AP 3816

Product code : 3881H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

TYPE APPROVAL CERTIFICATE

as per Bureau Veritas Classification Rules

This certificate is issued to

Barksdale GmbH

Reichelsheim - GERMANY

for the type of product

PRESSURE CONTROLLERS

Pressure Switches

Type: KLM-... Series and 8000-... Series

Regulations and standards :

BUREAU VERITAS Rules for the Classification of Steel Ships.
IEC 60529

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements of the Regulations and standards mentioned above.

This certificate is valid until : 22 Jun 2012

At Paris la Défense, on : 22 Jun 2007

For BUREAU VERITAS,
By order of the Secretary

Approval office

Local office : BV HAMBURG
Surveyor : D. Hoepfner

L. COURREGELONGUE



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Barksdale KLM- Series and 8000- Series are Compact Pressure Switches for Marine Applications.

Main Characteristics:

	KLM- Series (Diaphragm Type)	8000- Series
Pressure Range (bar):	1.0 to 40	0.4 to 45 (Diaphragm Type) 5.0 to 600 (Piston Type)
Electrical Rating:	U _{max} =50 Vdc, I _{max} =1.0 A EEx ia: U _{max} =28 Vdc, I _{max} =50 mA	U=250 Vac, I=2.0 A U=30 Vdc, I=3.0A EEx ia: U _{max} =28 Vdc, I _{max} =50 mA
Switch:	1 x C/NC/NO (Silver or Gold Contacts)	1 x C/NC/NO (Silver or Gold Contacts)
Operating Temperature (°C):	-20 to 80	-20 to 80 (Diaphragm Type) -40 to 80 (Piston Type)
Electrical Connection:	Plug DIN 43650 C Plug Bayonet DIN 72585 Cable	Plug DIN 43650 A Plug Bayonet DIN 72585 Plug M12 Cable
Pressure Connection:	G1/4" M, M12x1.5 M, M18x1.5 M	Cetop Flange, G1/4 F", 1/4" NPT F
Housing Material:	Stainless Steel	Aluminium (304SS Option)
Ingress Protection Index:	IP 65/67 (depending on electrical connection)	IP 65/67 (depending on electrical connection)
Ex Protection:	EEx ia IIB T6 (DIN Plug) EEx ia IIC T6 (Cable)	EEx ia IIB T6 (DIN Plug) EEx ia IIC T6 (Cable & M12)

2. DOCUMENTS AND DRAWINGS :

TRAFAG:

Data Sheets 01/07 Series 8000 US 923-1295 01/3 and 08/05 KDM-ENG 03/3.
Operating Instruction Series 8000.
Drawings No 922-1019 Rev. F (2 Pages, 8000-) and 922-1025 Rev. G (KLM-).

3. TEST REPORTS :

BFSV:

Vibration / Climatic Test Report Nr. 5527_2/05 dated 08.02.2005
IP Test Report Nr. 5641a/05 dated 22.06.05

Ex Certificate: ISSeP 03 ATEX 119X dated 24.10.2003 and its two variations dated 17.03.2004 (1) and 17.05.2005 (2).

4. APPLICATION / LIMITATION :

- 4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.
4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
4.3 - BUREAU VERITAS Environmental Category, **EC Code: 33/43.**

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The **Barksdale KLM- Series and 8000- Series** Pressure Switches are to be manufactured, examined and tested by **Barksdale GmbH.** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.
5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **Barksdale GmbH.** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.
5.3 - **Barksdale GmbH.** has declared to Bureau Veritas that the type of product described in this certificate are manufactured at the following production site:

Barksdale GmbH
Dorn-Assenheimer Strasse 27
D - 61203 Reichelsheim
GERMANY

- 5.4 - Each equipment is to be supplied with manual(s) for installation, use and maintenance.

6. MARKING OF PRODUCT :

- Trade name,
- Date of manufacture and serial number,
- Equipment type number or model identification under which it was type-tested,
- Ex marking, as relevant.

7. OTHERS :

This approval is given with the understanding that:

**Barksdale GmbH
Dorn-Assenheimer Strasse 27
D - 61203 Reichelsheim
GERMANY**

will accept full responsibility for informing shipbuilders, ship-owners or their sub-contractors of the proper methods of use and general maintenance of the transmitters and the conditions of this approval.

*** END OF CERTIFICATE ***